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1. Hydraulic Fracturing – White Paper From the California Independent Petroleum Association
2. United States Government Accountability Office, *Oil and Gas Leasing: Interior Could Do More to Encourage Diligent Development*, GAO-09-74 (2008)
3. Nabil EL Shaari, W.A. Minner, & R.F. LaFollette, *Is There a “Silver Bullet Technique” for Stimulating California’s Monterey Shale?*, SPE 144526 (2011)

1 The California Independent Petroleum Association (“CIPA”) submits this *amicus curiae*  
 2 brief in support of the Defendants, the Bureau of Land Management (“BLM”) and Ken Salazar.

### 3 I. 4 INTRODUCTION

5 This case involves Plaintiffs’ attempt to substitute fear, hype, and hyperbole regarding  
 6 hydraulic fracturing (often known as “fracking”) for the BLM’s reasoned analysis and expert  
 7 opinions regarding the likely development of four leases overlying one small portion of the  
 8 extensive Monterey Shale. Plaintiffs’ arguments ignore bedrock principles of judicial review and  
 9 agency deference, and ignore the geological and technical realities of exploring for and  
 10 developing hydrocarbons in an undeveloped “wildcat” area.

11 Plaintiffs argue that because shale plays in North Dakota, Texas, and the Eastern United  
 12 States have been developed utilizing certain technology, development of the Monterey Shale will  
 13 proceed along the same lines, use the same drilling and stimulation technology, and achieve the  
 14 same success. Plaintiffs’ Motion for Summary Judgment and Memorandum of Points and  
 15 Authorities in Support (“Plaintiffs’ MSJ”) at 1. This Court should not be swayed by such  
 16 unsupported reasoning. Each shale play is unique. Oil and gas development thousands of miles  
 17 away proves little or nothing about the validity of the BLM’s conclusions that development on  
 18 these specific leases in California will likely be limited. The Monterey Shale is geographically  
 19 extensive — covering a 50-mile wide band running the length of California’s San Joaquin Valley  
 20 and a similar width band along the Pacific Coast between Santa Barbara and Orange County.  
 21 Extrapolating the likelihood of success of oil and gas development from even one area of the  
 22 Monterey Shale to another is fraught with peril, and experience with shale plays thousands of  
 23 miles away is even less relevant.

24 CIPA supports, incorporates, and will not repeat the arguments made in Defendants’  
 25 Cross-Motion for Summary Judgment and Response to Plaintiffs’ Motion for Summary Judgment  
 26 (“Defendants’ XMSJ”). CIPA submits this brief to bring certain issues to the Court’s attention  
 27 that are of critical importance to the oil and gas industry in California as a whole, that are based  
 28 on CIPA’s unique perspective, and that have ramifications beyond the parties directly involved.

1 *First*, Plaintiffs misrepresent what is required by the National Environmental Policy Act  
 2 (“NEPA”), 42 U.S.C. § 4332, discount the propriety of techniques to streamline NEPA review  
 3 that are critical to CIPA’s members, and demand a level of analysis at the early leasing stage that  
 4 is improper and impossible to complete. *Second*, Plaintiffs argue that development of the leases  
 5 will be much more extensive than what the BLM predicts. Plaintiffs’ argument ignores technical  
 6 and geological realities of oil and gas development, and improperly extrapolates from other oil  
 7 and gas plays thousands of miles away. *Third*, Plaintiffs’ scare tactics regarding hydraulic  
 8 fracturing misstate the likelihood of fracking on these leases, inflate the environmental effects of  
 9 fracking, and ignore the BLM’s reasoned discussion of the issue. *Fourth*, Plaintiffs ask this Court  
 10 to require the BLM to impose Plaintiffs’ preferred mitigation technologies for oil and gas  
 11 development at the leasing stage, years before any development is likely to occur. This is not  
 12 required by the Mineral Leasing Act (“MLA”), 30 U.S.C. §§ 181–287, is technically and legally  
 13 unworkable, and usurps the role of other regulatory bodies.

## 14 **II.** 15 **INTEREST OF AMICUS CURIAE**

16 CIPA is a non-profit, non-partisan trade association representing approximately 450  
 17 independent crude oil and natural gas producers, royalty owners, and service and supply  
 18 companies operating in California. CIPA members are involved in all aspects of oil and gas  
 19 exploration, production, marketing, and transportation, including the drilling and operation of  
 20 wells on federal mineral estate managed by the BLM throughout California. CIPA educates the  
 21 public and elected officials regarding a number of aspects of the oil and gas industry. For  
 22 example, CIPA recently published a white paper on hydraulic fracturing in California (attached  
 23 hereto as Exhibit 1), and frequently weighs in on legislative and regulatory issues affecting its  
 24 members.

25 CIPA members are subject to extensive federal, state, and local regulation of multiple  
 26 aspects of their operations. CIPA members frequently acquire and develop oil and gas leases  
 27 covering federal mineral estate managed by the BLM. CIPA members have an interest in  
 28 ensuring that analysis prepared pursuant to NEPA is efficiently and accurately completed. CIPA

members also have an interest in ensuring that any conditions or stipulations placed in leases are reasonable, reflect technical and economic realities, and appropriately reflect that the suitable mitigation and equipment to be employed at a given well depends on a number of factors.

### III. LEGAL ARGUMENT

#### A. **Plaintiffs Misstate What NEPA Requires, Overlook the Propriety of Incorporating Information by Reference, and Demand an Inappropriate Level of Detail at This Early Leasing Stage**

##### 1. **Plaintiffs Misstate NEPA's Requirements**

Plaintiffs inappropriately fly-speck and second-guess the expert conclusions reached by the BLM in the BLM's Environmental Assessment for the September 14, 2011 Oil and Gas Competitive Lease Sale ("2011 EA"), Administrative Record ("AR") 964–1080, and the underlying Environmental Impact Statement for the Resource Management Plan for the Southern Diablo Mountain Range & Central Coast of California ("RMP EIS"), AR 1-668, to which the 2011 EA is tiered. AR 969 ("In accordance with 40 CFR 1502.20 this Environmental Assessment (EA) is tiered to the Proposed Resource Management Plan and Final Environmental Impact Statement ...."); AR 960 ("implementation of the Proposed Action will not have significant environmental impacts beyond those already addressed in the Record of Decision (ROD) for the Hollister Field Office Resource Management Plan ....").

NEPA is a purely procedural statute that does not "impose any substantive requirements on federal agencies ...." *Lands Council v. McNair*, 537 F.3d 981, 1000–01 (9th Cir. 2008) (en banc) (internal quotation marks omitted), *overruled in part on other grounds by Winter v. NRDC*, 555 U.S. 7 (2008). All that NEPA requires is that the agency takes a "hard look" at the environmental consequences of its actions. *See, e.g., Sierra Club v. Bosworth*, 510 F.3d 1016, 1018 (9th Cir. 2007); *McNair*, 537 F.3d at 1000–01. In reviewing whether an agency's NEPA analysis satisfies the "hard look" requirement, courts apply the deferential standard of review under the Administrative Procedure Act ("APA"), and will set aside an agency's decision only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *McNair*, 537 F.3d at 987.



1 Plaintiffs seek to substitute this deferential standard of review with an impossibly  
 2 stringent one. Plaintiffs attack the 2011 EA's reasoned conclusions regarding the likely level of  
 3 oil and gas activity on the issued leases.<sup>1</sup> Plaintiffs argue that the 2011 EA must contain detailed  
 4 discussions of every conceivable development scenario resulting from the lease sale that is not so  
 5 "remote and speculative as to reduce the effective probability of its occurrence to zero."  
 6 Plaintiffs' MSJ at 22, 25. Plaintiffs argue that the Court should require the BLM to then carry  
 7 Plaintiffs' inflated development assumptions through the 2011 EA in assessing impacts of the  
 8 development on other resources (such as wildlife).<sup>2</sup> Plaintiffs MSJ at 25. This contention fails  
 9 for three reasons.

10 First, as explained below, prediction regarding future oil and gas development requires the  
 11 balancing of numerous technical considerations, including geologic and economic factors, access  
 12 to markets, and the success of past development in the area. As a forward looking statute that  
 13 requires the prediction of uncertain future outcomes, NEPA necessarily requires agencies to  
 14 exercise judgment in evaluating conflicting and incomplete information. It is in these scientific  
 15 and technical areas that judicial deference is at its apex. *See, e.g., Balt. Gas & Elec. Co. v.*  
 16 *NRDC*, 462 U.S. 87, 103 (1983) (a court should be "at its most deferential" when reviewing  
 17 scientific judgments and technical analyses); *McNair*, 537 F.3d at 994 ("as non-scientists, we  
 18 decline to impose bright-line rules on the Forest Service regarding particular means that it must  
 19 take in every case to show us that it has met the [National Forest Management Act]  
 20 requirements."); *Selkirk Conservation Alliance v. Forsgren*, 336 F.3d 944, 954 (9th Cir. 2003)  
 21 (courts should defer to agency determinations in areas involving a "high level of technical  
 22 expertise"); *Forest Guardians v. U.S. Forest Serv.*, 329 F.3d 1089, 1099 (9th Cir. 2003) (courts  
 23 are to be "most deferential" when an agency is "making predictions, within its [area of] special  
 24 expertise, at the frontiers of science").

25 Second as Plaintiffs note, certain cases have faulted agencies for failing to "address

26 <sup>1</sup> As explained below, the BLM's conclusions regarding the likely level of development are  
 27 reasonable.

28 <sup>2</sup> Plaintiffs never actually say what level of development BLM should have assumed. Instead,  
 Plaintiffs state only that "BLM's authorized leasing may result in the drilling of more than one  
 well across the 2,703 acres." Plaintiffs' MSJ at 25.

1 uncertainties relating to a project ‘in any meaningful way’ in an EIS.” *McNair*, 537 F.3d at 981  
 2 (quoting *Seattle Audubon Soc’y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993)). That is not what  
 3 happened here. The 2011 EA appropriately acknowledged and addressed the necessary  
 4 uncertainty regarding the level of future development of the leases. AR 1036, 1045.

5 “[N]one of NEPA’s statutory provisions or regulations requires [an agency] to  
 6 affirmatively present every uncertainty in its EIS.” *McNair*, 537 F.3d at 1001. The court in  
 7 *McNair* appropriately described the impossibility of implementing the onerous requirement  
 8 Plaintiffs seek to impose on the BLM here:

9 to affirmatively present every uncertainty in its EIS would be an  
 10 onerous requirement, given that experts in every scientific field  
 11 routinely disagree; such a requirement might inadvertently prevent  
 the Forest Service from acting due to the burden it would impose.

12 *McNair*, 537 F.3d at 1001. All that is required under NEPA is that agencies identify areas of  
 13 scientific uncertainty. *Id.*; see also *Izaak Walton League of Am. v. Marsh*, 655 F.2d 346, 377  
 14 (D.C. Cir. 1981) (holding that “[s]o long as the environmental impact statement identifies areas of  
 15 uncertainty, the agency has fulfilled its mission under NEPA”).

16 The BLM fulfilled NEPA’s requirements here. The BLM used its expertise to make what  
 17 CIPA believes to be the conservative prediction that “one exploration well would result from the  
 18 proposed lease sale.” AR 1046. But the BLM nevertheless acknowledged in the 2011 EA the  
 19 uncertainty of that prediction, and disclosed and evaluated development under other scenarios,  
 20 including “the operations and effects associated with field development.” AR 1045 (disclosing  
 21 the potential surface disturbance associated with “10 development wells”); see also AR 1036  
 22 (“Impact analysis based on incomplete or unavailable information is identified where applicable  
 23 in this chapter”). NEPA requires no more. *E.g.*, *Izaak Walton League*, 655 F.2d at 377.

24 Third, Plaintiffs’ reliance on *New York v. Nuclear Regulatory Com’n*, 681 F.3d 471 (D.C.  
 25 Cir. 2012) and *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Com’n*, 449 F.3d 1016  
 26 (9th Cir. 2006) is misplaced. Each case addressed situations where an agency completely failed  
 27 to consider the impact of its decision on a particular resource or issue. See *New York*, 681 F.3d at  
 28 482 (failure to consider impact of failure to find permanent nuclear storage facility, leak at

temporary storage pools, and fires at temporary storage facility); *Mothers for Peace*, 449 F.3d at 1029 (failure to consider impact of terrorist attack). Here, Plaintiffs do not contend that the BLM failed to consider the impacts of the leasing decision, but rather simply take issue with the BLM's conclusions regarding those impacts. This is exactly the type of second guessing that the APA prohibits. 5 U.S.C. § 706(2)(A); *Balt. Gas & Elec. Co.*, 462 U.S. at 103; *New York*, 681 F.3d at 482 (overturning EA because "the Commission did not undertake to examine the consequences of pool fires at all. Depending on the weighing of probability and consequences, an EIS may or may not be required, *and such a determination would merit considerable deference.*" [emphasis added]).

## 2. Incorporation of Material by Reference is Encouraged

Plaintiffs fault the 2011 EA's extensive discussion of hydraulic fracturing because the analysis incorporates certain materials by reference rather than containing the analysis in the EA itself. Plaintiffs' MSJ at 30. Among other things, Plaintiffs fault the 2011 EA because it: (1) "reference[s] and quote[s] a 2004 EPA study," (2) "acknowledges ongoing studies being performed by other agencies," and (3) "provides links to a congressional report on the chemicals used in fracking [but] does not describe the report's findings." Plaintiffs' MSJ at 30. Plaintiffs' criticisms are misplaced because describing and incorporating relevant studies by reference is exactly what applicable legal authority directs the BLM to do. Agencies are expressly directed to "reduce excessive paperwork," including by "[i]ncorporating by reference" other studies and analyses. 40 C.F.R. § 1500.4(j). *See also* 40 C.F.R. § 1502.21 ("Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action."); *Env'tl. Prot. Info. Ctr. v. Blackwell*, 389 F. Supp. 2d 1174, 1204 (N.D. Cal. 2004) ("By covering the issue of impacts on late-successional wildlife and wildlife habitat in the EA, with a fuller discussion of the issue being provided in the wildlife specialists' reports that were incorporated by reference into the EA, the FS made reasonably diligent efforts to involve the public during the NEPA process, especially since an EA is designed to be a 'concise public document.'") (*quoting* 40 C.F.R. § 1508.9). The use of incorporation by reference and other techniques to reduce unnecessary and duplicative

1 paperwork is of critical importance to CIPA members, which depend on timely and accurate  
2 NEPA analyses of federal actions.

3 Plaintiffs' complaint that the 2011 EA contains a "total of three pages discussing  
4 fracking," ignores the appropriate incorporation of other studies by reference, and is a subterfuge  
5 to hide the fact that Plaintiffs simply disagree with the conclusions in the incorporated studies.  
6 Plaintiffs' MSJ at 30 (attacking Environmental Protection Agency study incorporated by  
7 reference and arguing that the BLM "completely ignores" other studies). But Plaintiffs'  
8 disagreement with the BLM's expert conclusions regarding available scientific evidence does not  
9 render the 2011 EA arbitrary and capricious. *See, e.g., Marsh v. Or. Natural Res. Council*, 490  
10 U.S. 360, 378 (1989) (holding that deference is particularly appropriate "where the challenged  
11 decisions involve technical or scientific matters within the agency's area of expertise."); *Balt. Gas*  
12 *& Elec. Co.*, 462 U.S. at 103 (a court should be "at its most deferential" when reviewing scientific  
13 judgments and technical analyses).

### 14 **3. The Level of Detail of NEPA Analysis Required at the Leasing Stage is** 15 **Appropriately Limited**

16 Plaintiffs demand a level of detail in the 2011 EA's analysis that is inappropriate at this  
17 intermediate leasing stage. Plaintiffs' MSJ at 27-31.

18 The BLM appropriately notes that NEPA analysis was not required at all because of the  
19 NSO stipulations on certain leases, and the extremely stringent stipulations in other leases.  
20 Defendants' XMSJ at 14-18. But even if NEPA analysis in some form was required, the scope of  
21 that analysis is necessarily constrained by the practical reality that often no or very little  
22 development is foreseeable at the leasing stage, and there is little information about any  
23 development that may occur. When lands are offered for lease, the BLM often has no or very  
24 little information regarding whether the lands will actually be leased, whether the leases will ever  
25 be developed, where that development will occur, what surface and drilling equipment will be  
26 utilized, the well type to be drilled, the target depth, completion techniques, the operator drilling  
27 the well, what mitigation measures will be imposed by other regulators (such as the California  
28 Division of Oil, Gas, and Geothermal Resources or "CDOGGR"), and numerous other issues.

1 See, e.g., AR 1051 (“At the leasing stage, it is extremely difficult to generate a meaningful  
2 estimate of emissions associated with an unknown well type, target depth, in an unknown  
3 location, with an unknown lessee, operator, drilling contractor, etc. .... modeling at this time  
4 would be hypothetical.”).

5 Federal leases are issued for 10 year terms, and may be extended for a variety of reasons.  
6 See, e.g., 43 C.F.R. § 3103.4-4 (circumstances under which a suspension of operations and/or  
7 production may be granted). Plaintiffs ask the BLM to make detailed findings regarding  
8 speculative development that may or may not occur at all (or in any particular form) for a decade  
9 or more. Numerous courts have rejected Plaintiffs’ claims, and have recognized the practical  
10 realities of NEPA analyses at the leasing stage. *Tribal Village of Akutan v. Hodel*, 869 F.2d 1185,  
11 1192 (9th Cir. 1988) (analyzing NEPA document for offshore lease sale and holding that “[w]e  
12 are the least troubled by what might be incomplete or speculative data at the lease sale stage.”);  
13 *N. Plains Res. Council v. Lujan*, 874 F.2d 661, 666 (9th Cir. 1989) (site-specific discussion of  
14 impacts of proposed coal lease at leasing stage “would, at this stage, be too speculative”). The  
15 2011 EA contains an appropriately detailed analysis of the types of impacts that oil and gas  
16 development of the leases in question likely would have. AR 1041-46. The level of detail  
17 demanded by Plaintiffs would require the BLM to predict what is inherently unpredictable.  
18 NEPA does not require a crystal ball.

19 **B. The BLM’s Projections Regarding the Level of Anticipated Development Are**  
20 **Reasonable**

21 The 2011 EA appropriately notes that the level of oil and gas development on the leases at  
22 issue is likely to be “relatively minimal.” AR 1041. Plaintiffs fault this conclusion, and claim  
23 that this “[o]ne fundamental flaw infects BLM’s entire NEPA analysis ....” Plaintiffs’ MSJ at 21.  
24 Plaintiffs are wrong because the BLM conducted a detailed analysis of foreseeable oil and gas  
25 activity in 2007, confirmed that the analysis was still valid in 2011, and reasonably concluded that  
26 it is unlikely that intensive development of the leases would occur. See, e.g., AR 816–23 (2007  
27 Reasonably Foreseeable Development Scenario); AR 1041–46 (2011 EA oil and development  
28 assumptions).

1           **1. The Reasonably Foreseeable Development Scenario and 2011 EA Contain**  
 2           **Extensive Analysis of Likely Oil and Gas Activity on the Leases**

3           A BLM “Reasonably Foreseeable Development Scenario” is “[a] tool prepared by an  
 4 interdisciplinary group of technical and scientific specialists [that] serves as an analytical baseline  
 5 for identifying direct, indirect, and cumulative impacts ....” *Wyoming Outdoor Council*, 164  
 6 IBLA 84, 98 (2004). The Interior Board of Land Appeals has explained that an RFD is:

7                       based on a review of geologic factors that control the potential for  
 8 oil and gas resource occurrence and past and present technological  
 9 factors that control the type and level of oil and gas activity. The  
 10 RFD also takes into account petroleum engineering principles and  
 practices and economics associated with discovering and producing  
 oil and gas.

11       *Id.* at 100. Recognizing the technical and practical realities of oil and gas exploration and  
 12 development, the “RFD projection can range from speculative estimates in unexplored frontier  
 13 areas to estimates with higher levels of confidence in maturely developed producing areas.” *Id.*

14       As part of “step one” of the oil and gas development process described in Defendants’  
 15 XMSJ at 11-13, the BLM analyzed in detail projected oil and gas activity within the planning  
 16 area, and documented that analysis in the “Hollister Field Office Area Reasonably Foreseeable  
 17 Development Scenario for Oil and Gas” (“RFD”). The RFD is attached as Appendix F to the  
 18 Southern Diablo RMP. AR 816–23. As part of the RFD process, the BLM synthesized known  
 19 geologic and economic data and evaluated past development activity. AR 816. The BLM “took  
 20 into statistical account historical drilling and development activity throughout the region and  
 21 within the [Hollister Field Office] specifically.” AR 8063. Based on this analysis, the BLM then  
 22 prepared a projection of various types of development activities that are likely to occur over the  
 23 15–20 year life of the Southern Diablo RMP (covering an administrative area of 188,000 acres —  
 24 AR 817). *Id.* The RFD projected that:

25                       Overall, within the next 15-20 years, we project total surface  
 26 disturbance due to all oil and gas activities on federal mineral estate  
 27 to be no more than 74 acres. This estimate includes geophysical  
 exploration (seismic), 5 exploration wells, 10 development wells  
 28 and associated facilities, road, and a transmission pipeline that  
 could be linked to existing transmission lines within the area. One  
 third of this disturbance, 26 acres, will be temporary, and would be

1 mostly to totally reclaimed within a few months to a couple of  
2 years.

3 AR 816.

4 The 2011 EA then built upon the analysis in the RFD, and updated it to reflect activity  
5 since its issuance. AR 1044. The 2011 EA notes that, to date, the RFD appears to be an  
6 overestimation because not a single well has been drilled on any federal lease in the RFD area in  
7 the six years since the RFD was developed. AR 1044. The 2011 EA notes that the proposed  
8 lease sale covers a land mass dwarfed by the undrilled acreage already under federal lease.  
9 AR 1044. The 2011 EA examines the geographic proximity of the leases to be issued to other  
10 producing fields. AR 1044. The 2011 EA examines the lack of development on neighboring  
11 leases during periods of high commodity prices. *Id.* The 2011 EA then synthesizes all of this  
12 information, concludes that the level of development on the leases in question is likely to be  
13 “relatively minimal,” AR 1041, and predicts the drilling of “no more than one well total on all of  
14 these parcels, with no particular area being more likely than another to be drilled.” AR 1044.  
15 This conclusion is well reasoned, supported by the record, and merits deference. *E.g., Marsh*,  
16 490 U.S. at 378.

## 17 **2. The BLM’s Development Projections Are Reasonable**

18 Plaintiffs attack the BLM’s development conclusions based on conclusory statements that  
19 lack record evidence. Plaintiffs assume that, simply because land is leased, the lease will be  
20 developed, surface disturbance will occur, wells will be drilled and fracked, and those wells will  
21 produce oil and gas. *See, e.g.,* Plaintiffs’ MSJ at 26 (“Each lease was successfully auctioned  
22 (with prices as high as \$180,000 for a 200-acre parcel) and presumably oil and gas companies  
23 fully intend to develop the leases acquired.”).

24 That is not the case. Oil and gas exploration is a speculative business. There is no  
25 guarantee that exploration will yield a productive target worthy of drilling an exploratory well  
26 and, if drilled, that the exploratory well will demonstrate that hydrocarbons can be economically  
27 recovered. Leasing is a bet that more often than not does not pan out. An oil and gas company  
28 wishing to develop an area must first lease up enough contiguous land to allow economic



1 exploration for oil and gas. It must find financial partners to fund the project. It must conduct  
 2 seismic or other surveys to test the geological suitability for production of hydrocarbons. *See*  
 3 AR 1042–1043 (describing gravity and magnetic field surveys, seismic reflection surveys, and  
 4 other exploratory techniques). If the surveys are favorable, the company may decide to drill a test  
 5 well. *See* AR 1043 (describing exploratory drilling process). It then will evaluate the results of  
 6 this test well and decide to proceed with further exploration or tests. Only after clearing all of  
 7 these hurdles would the play ever move into the development stage. Put simply, oil and gas  
 8 development is a risky business and the purchase of a speculative lease in an unproven area in no  
 9 way predicts the ultimate development of that area.

10 The speculative nature of oil and gas development holds true when it comes to leasing of  
 11 federal minerals. The Government Accountability Office (“GAO”) recently conducted a  
 12 comprehensive analysis of the utilization of federal oil and gas leases. The 2008 GAO report is  
 13 attached as Exhibit 2. The GAO analyzed the percentage of onshore and offshore leases issued  
 14 between 1987 and 1996 that had been developed as of 2007. The GAO report concludes that:

15 of the leases issued from 1987 through 1996, offshore leases were  
 16 substantially more likely than onshore leases to have been  
 17 developed up through 2007. Specifically, about 1,891 leases, or  
 18 about 26 percent of the 7,285 offshore leases were drilled, and  
 19 about 888 leases, or about 12 percent of the offshore leases  
 achieved production. By comparison, *about 2,904 leases, or 6*  
*percent of the nearly 47,925 onshore leases issued, were drilled*  
*during the sample period, and about 2,386 leases, or 5 percent of*  
*the total leases, produced oil and gas by 2007.*

20 Ex. 2 at 23 (emphasis added). *See also* AR 1043 (“historically, a large majority of leases are  
 21 relinquished without ever having any actual surface disturbance”); AR 1044 (“From the lease  
 22 sales conducted in the HFO boundary during the past 20 years, *none* of the leases have had *any*  
 23 wells drilled on them.” [emphasis added]). This data demonstrate that, far from being a low  
 24 projection, the 2011 EA’s prediction that “it is reasonable to project that only one exploratory  
 25 well would result from the proposed lease sale” (AR 1046) is actually a very reasonable estimate.  
 26 With only 6% of federal onshore leases drilled, the most likely result here is that no development  
 27 will occur at all.  
 28



1           **3.       Extrapolation From Other Shale Plays, or Even Other Areas of the Monterey**  
 2           **Shale, is Improper**

3           Lacking any real evidence for why the BLM’s expert development projections are  
 4           improper, Plaintiffs must make two arguments by analogy: (1) because shale plays have been  
 5           successful thousands of miles away, the Monterey Shale will experience similar levels of  
 6           development (*see, e.g.*, Plaintiffs’ MSJ at 7 (stating that: “Significant shale oil extraction has  
 7           already occurred in the Bakken play in North Dakota and Eagle Ford play in Texas”)); and  
 8           (2) because certain areas of the Monterey Shale have been successfully developed, the lease areas  
 9           at issue here will be extensively developed also (*see, e.g.*, Plaintiffs’ MSJ at 9 (stating that: “The  
 10          importance of the Monterey Shale Formation to the oil industry in California cannot be  
 11          overestimated. According to a senior geologist from the oil company Venoco Inc.: ‘Almost all  
 12          the oil in California has been sourced by the Monterey. . . . Only a small percentage has come  
 13          from other source rocks.’ AR 07893”)).

14          Every oil and gas play is different. For example, certain members of the Society of  
 15          Petroleum Engineers prepared a study of well stimulation technologies for the Monterey Shale in  
 16          2011 (the “SPE Paper”). The SPE Paper, attached as Exhibit 3, notes that: “One of the lessons  
 17          learned from other unconventional shale developments (King, 2010) is that no two shales are  
 18          alike. This holds true with the Monterey siliceous shale, which has large variations in properties  
 19          both laterally and with depth.” Ex. 3 at 3. The SPE Paper continues: “The variations in  
 20          mineralogy, lithology, and quartz phase make the Monterey substantially different from other  
 21          unconventional resource shales currently being produced.” Ex. 3 at 4. The productivity of one  
 22          shale play cannot be extrapolated to a different play, such as the Monterey Shale. Extrapolation  
 23          from results from even one area of the Monterey Shale to another area is very difficult. *See* Ex. 3  
 24          at 1 (“There are large variations in reservoir properties and general interval behavior [of the  
 25          Monterey Shale] due to differences in the lithology, diagenetic state, mechanical properties, and  
 26          stress state.”).

27          As Plaintiffs’ acknowledge on page nine of their brief, even the largest oil and gas  
 28          operator in the area — Venoco — is still at the very early stages of testing its prospect in the

1 Monterey Shale:

2 [W]e were able to double the Monterey Shale budget and not only  
3 drill additional vertical wells, but also drill our first horizontal wells  
4 in the play. *We are very early in the process of applying new*  
5 *drilling, coring, logging, completion and petrophysics to the*  
6 *Monterey.* Before 2010, we'd invested five years to identify the  
7 resource, to build a solid lease position and to hire key personnel to  
8 pursue this play. We have made very good progress in 2010 by  
9 getting the bit into the ground.

7 AR 7983 (emphasis added and internal quotation marks omitted).

8 The speculative nature of oil and gas development is especially acute where, as here, a  
9 lease is issued in a wildcat area. *See, e.g.*, AR 1044 (stating that a “wildcat well” is one that is  
10 “outside the productive boundary of existing oil and gas fields”). The critical aspect of a wildcat  
11 well is that, by definition, little about the subsurface geology and the prospect for hydrocarbons in  
12 commercial quantities are known with certainty before it is drilled. This means both that the well  
13 is often more difficult to drill (because the drilling crew knows little about the formations they are  
14 drilling through) and far less likely to be productive (because the well is essentially an educated  
15 guess) than wells drilled in established fields.

16 As the BLM explains in the 2011 EA:

17 Historically in the San Joaquin Valley, only about 10-15% of  
18 wildcat wells have been successful in finding commercial quantities  
19 of oil and gas .... The remaining 85-90% of the wells are non-  
20 commercial which are immediately plugged and abandoned  
(P&A'd), so any disturbance associated with the drilling of these  
P&A'd wells would be temporary.

21 AR 1047–48. Given the unexplored and wildcat nature of the leases in question, Plaintiffs'  
22 unsupported assertion that the leases will be extensively developed simply because they were  
23 purchased is not convincing.

24 **C. Plaintiffs Misrepresent Both the Likelihood and Impact of Hydraulic Fracturing**

25 Plaintiffs make two interrelated arguments, both based on faulty assumptions: (1) any  
26 wells drilled on the leases will be fracked (*see, e.g.*, Plaintiffs' MSJ at 2, describing the “looming  
27 fracking boom” in California); and (2) once the wells are fracked, significant adverse  
28 environmental effects will occur (Plaintiffs' MSJ at 15, outlining Plaintiffs' parade of horrors)

about fracking). CIPA supports the use of hydraulic fracturing technology, and is hopeful that it can eventually be more extensively used in California. But despite the fact that hydraulic fracturing has been utilized in California since the 1950s, the geological nature of the Monterey Shale means that the technology may not be as extensively utilized as Plaintiffs' suggest.

### 1. What is Hydraulic Fracturing?

Contrary to popular belief, hydraulic fracturing is not a drilling technique. Ex. 1 at 1. Rather, it is one of many "completion" or "well stimulation" techniques that are employed to encourage hydrocarbon production after a well is drilled and cased. *Id.* The well is fracked only after a permit has been issued by the State Division of Oil, Gas, and Geothermal Resources (DOGGR) that ensures the wellbore contains the requisite barriers of protection between the inside of the well (where the fluid flows) and the outer casing of the well. Ex. 1 at 1; CAL. PUB. RES. CODE § 3203 (2011). The hydraulic fracturing process generally takes 1–2 days, and involves injecting high pressure water, sand, and chemicals thousands of feet below the surface into low permeability rock to create tiny fractures that then allow trapped oil and gas to migrate to the wellbore. Ex. 1 at 1.

### 2. Hydraulic Fracturing is Used Sparingly in Development of the Monterey Shale

CIPA is very hopeful that hydraulic fracturing will prove successful in the Monterey Shale. But Plaintiffs make unsupported assumptions about the use of the practice in California that do not comport with geologic reality or the current state of technology. The 2011 EA concludes that less than 20% of wells drilled in the area are hydraulically fractured. AR 1039. This is a reasonable estimate. The SPE Paper explains that: "In the non-traditional ('unconventional') Monterey targets, conventional hydraulic fracture placement can be challenging, due to the combination of stress state and natural fracture planes that complicate fracture geometry and leakoff by opening under fracturing conditions."). Ex. 3 at 3. The biggest operator in the area — Venoco — has determined that it's forthcoming "exploration drilling will involve vertical wells and acid, not the more expensive hydraulic fracturing." AR 516. The bottom line is that hydraulic fracturing will likely be a piece of the puzzle for oil and gas

development in California, but assuming it has fundamentally reshaped oil and gas development in the Monterey Shale is untrue.

### 3. The BLM Reasonably Concluded That Hydraulic Fracturing is Safe

The 2011 EA contains a reasonable discussion of hydraulic fracturing, including summaries of relevant recent studies and analysis. AR 1037–40. Plaintiffs’ fault this analysis, and argue that “more recent studies show harm, or at least risk, from fracking.” Plaintiffs’ MSJ at 30. As described above, Plaintiffs’ argument fails because it is the BLM, and not Plaintiffs or this court, which is tasked with weighing competing scientific and technical information. But Plaintiffs’ arguments that fracking is a risky and dangerous practice fails also because it is untrue.

Fracking does not occur until a well is already drilled. As a well completion technology that involves pumping fluid into a wellbore, the safety of fracking is entwined with regulation of wellbore integrity. Pursuant to DOGGR regulations, no well in California may be drilled until a state engineer confirms that the well contains multiple barriers of cement and steel casing that form an impermeable barrier between the well and the surrounding geological environment. Ex. 1 at 1; CAL. PUB. RES. CODE § 3203; CAL. CODE REGS. Tit. 14, § 1722.2 (each well shall be designed to “seal off fluids and segregate them for the protection of all oil, gas, and freshwater zones” and must include “the appropriate design factor provided to obtain a safe operation.”). Where groundwater reservoirs are generally several hundred feet below the surface, hydraulic fracturing occurs in impermeable zones several thousand feet below the surface. Ex. 1 at 5. Thousands of feet of impermeable rock generally separate the fracturing zone from the groundwater zone. Not surprisingly then, there has been no known case of groundwater contamination due to hydraulic fracturing found in the United States. Ex. 1 at 5 (citing recent testimony and reports stating the same).

### D. Requiring the BLM to Impose Plaintiffs’ Preferred Completion and Operation Technologies as Lease Stipulations Does not Comport with the Mineral Leasing Act and is Bad Policy

Plaintiffs argue that the MLA, 30 U.S.C. § 225, obligated the BLM to impose stipulations in the leases requiring that future site-specific development utilize Plaintiffs’ preferred technology, including: (1) “requiring state of the art rod-packing technology”; (2) techniques to

1 “separate[] mud and debris to capture the gas or condensate”; (3) utilizing “zero emission  
 2 dehydrators”; and (4) utilizing other specific technologies and drilling and completion techniques  
 3 advocated by Plaintiffs. Plaintiffs’ MSJ at 38–41. CIPA agrees with Defendants’ legal  
 4 arguments on this point, and will not repeat them here. Defendants’ XMSJ at 38–43. But the  
 5 Court should also be aware of the terrible policy and practical effects that would result from  
 6 adoption of Plaintiffs’ legal theories.

7 Plaintiffs ignore that the issuance of an oil and gas lease is an intermediate step in the  
 8 federal oil and gas development process. As explained in Defendants’ XMSJ at 12–13, the BLM  
 9 conducts a three phase decision-making process in authorizing oil and gas development on federal  
 10 lands: (1) land use planning (*see* 43 U.S.C. § 1712; 43 C.F.R. Part 1600, Subpart 1601);  
 11 (2) leasing decisions (*see* 30 U.S.C. § 226(a)–(b).); and (3) site specific development decisions  
 12 (*see* 30 U.S.C. § 226(g); Onshore Order Number 1, 72 Fed. Reg. 10,308, 10,334 (Mar. 7, 2007)).  
 13 This case concerns phase two. Plaintiffs attempt to force the BLM to impose its preferred well  
 14 technology and mitigation measures at this intermediate stage. That is inappropriate and ignores  
 15 the significant process still to come.

16 If an operator ever seeks to develop the leases in question, the BLM and project proponent  
 17 will prepare a site-specific proposal to minimize, mitigate and avoid impacts to other resource  
 18 values. Before commencing “drilling operations” or “surface disturbance preliminary thereto,” an  
 19 oil and gas lessee must submit a surface use plan to the BLM, and obtain BLM approval of an  
 20 Application for Permit to Drill (“APD”). 30 U.S.C. § 226(g); 43 C.F.R. § 3162.3-1(c). The BLM  
 21 conducts a site-specific NEPA review of the proposal, and prepares an Environmental Impact  
 22 Statement or Environmental Assessment to analyze the reasonably foreseeable effects of the  
 23 development proposal, as well as alternatives. *See* 42 U.S.C. § 4332; Onshore Order Number 1,  
 24 72 Fed. Reg. 10,308, 10,334 (Mar. 7, 2007). The BLM determines if existing NEPA analysis  
 25 covers the project and whether the analysis enables them to approve the proposal without further  
 26 review. *See* BLM NEPA Handbook, H-1790-1 § 5.1 (relevant excerpts attached as Exhibit 2).  
 27 The BLM’s decision on an APD is subject to administrative appeal within the agency, and  
 28 thereafter to judicial review under the APA, 5 U.S.C. § 706. The BLM must make information

1 concerning each APD public, and must consult with other agencies before approving an APD.  
 2 43 C.F.R. § 3162.3-1(g); § 3162.3-1(h). In California, the state CDOGGR regulates the  
 3 development of the well “to prevent surface and groundwater contamination and ensure  
 4 protection of sensitive resources.” AR 1040 (referencing a 2008 Memorandum of Understanding  
 5 between the BLM and CDOGGR).

6 This extensive site-specific development process is the appropriate time at which to  
 7 impose particular drilling, completion, and other mitigation requirements. The BLM retains the  
 8 authority under the issued leases to do so. *See, e.g.*, AR 9368 (providing that the lease is “subject  
 9 to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of  
 10 Interior’s regulations and formal orders in effect as of lease issuance”); 43 C.F.R. § 3162.7-1(a)  
 11 (“[t]he operating rights owner or operator, as appropriate, shall comply with applicable laws and  
 12 regulations; with the lease terms, Onshore Oil and Gas Orders, NTL’s; and with other orders and  
 13 instructions of the authorized officer”). Pushing the decision regarding specific mitigation  
 14 technology to the leasing stage will require the BLM to act without the benefit of site specific  
 15 information, will usurp the extensive body of law and regulations regarding site-specific  
 16 development decisions, and will lock the BLM into a decision today that may make no sense in a  
 17 decade or more when a site-specific development application is actually submitted.

#### 18 19 IV. CONCLUSION

20 For all the foregoing reasons, and the reasons stated in Defendants’ cross-summary  
 21 judgment motion, the Court should dismiss Plaintiffs’ claims with prejudice.

22 Respectfully submitted this 14<sup>th</sup> day of September, 2012

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